

1. C Programming

No Deliverables

2. Displaying and Exporting Images in Python

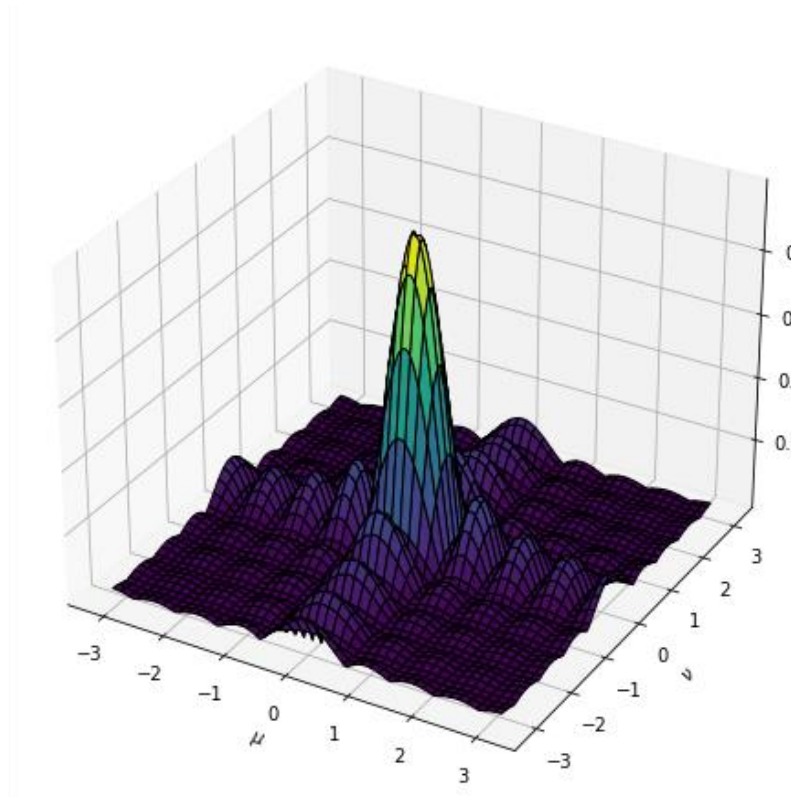
No Deliverables

3. FIR Low Pass Filter

1. Derivation of $H(e^{j\mu}, e^{j\nu})$: *See Next Page*

2. Plot of $|H(e^{j\mu}, e^{j\nu})|$

Magnitude of Frequency Response $|H(e^{j\mu}, e^{j\nu})|$ vs μ and ν



3. Color image *img03.tif*



4. The filtered image *color.tif*



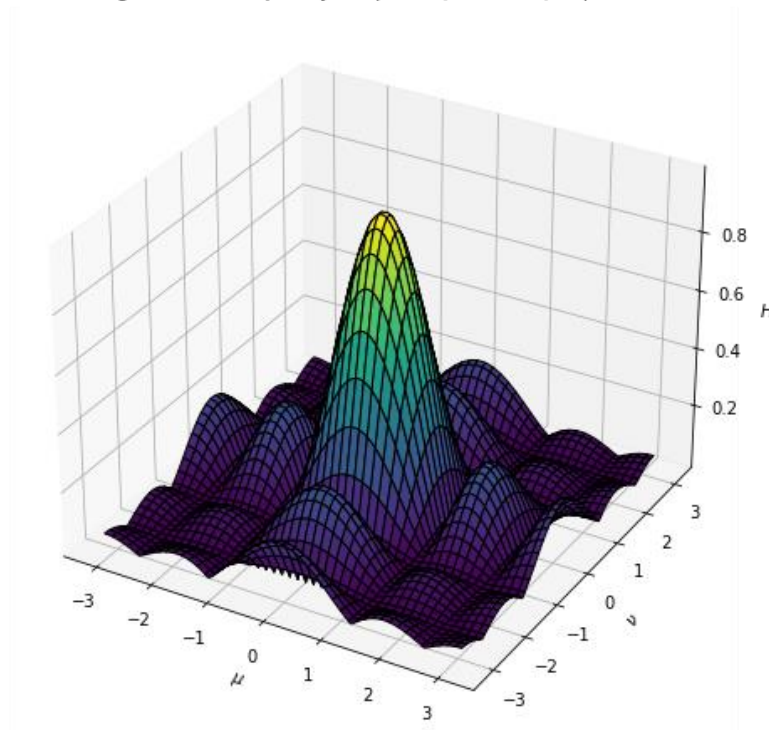
5. Listing of C Code: *See Next Page*

4. FIR Sharpening Filter

1. Derivation of $H(e^{j\mu}, e^{j\nu})$: *See Next Page*
2. Derivation of $G(e^{j\mu}, e^{j\nu})$: *See Next Page*

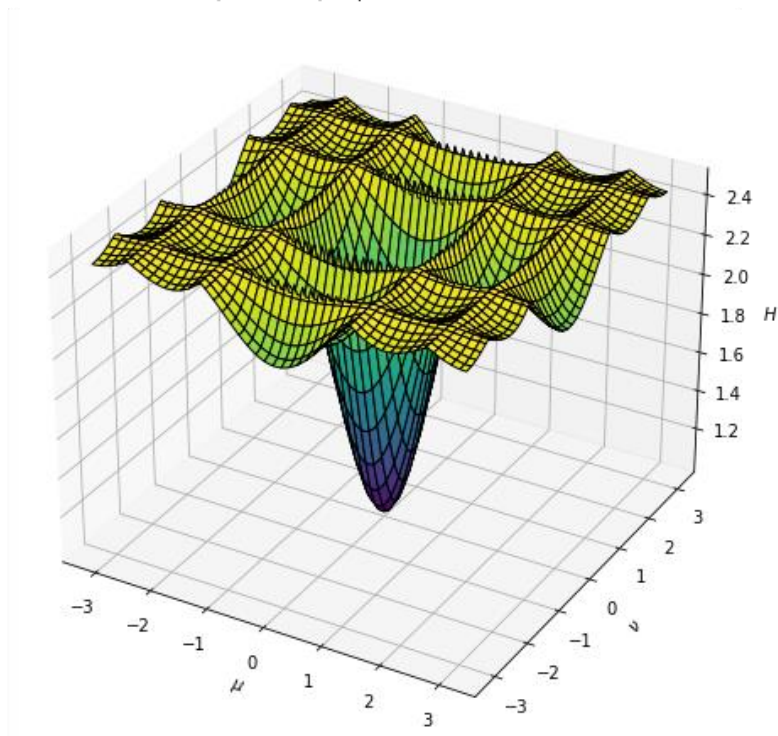
3. Plot of $|H(e^{j\mu}, e^{j\nu})|$

Magnitude of Frequency Response $|H(e^{j\mu}, e^{j\nu})|$ vs μ and ν



4. Plot of $|G(e^{j\mu}, e^{j\nu})|$ for $\lambda = 1.5$

$|G(e^{j\mu}, e^{j\nu})|$ vs μ and ν at $\lambda = 1.5$



5. Input color *imgblur.tif*



6. Output sharpened color image, *sharpened.tif*, for $\lambda = 1.5$



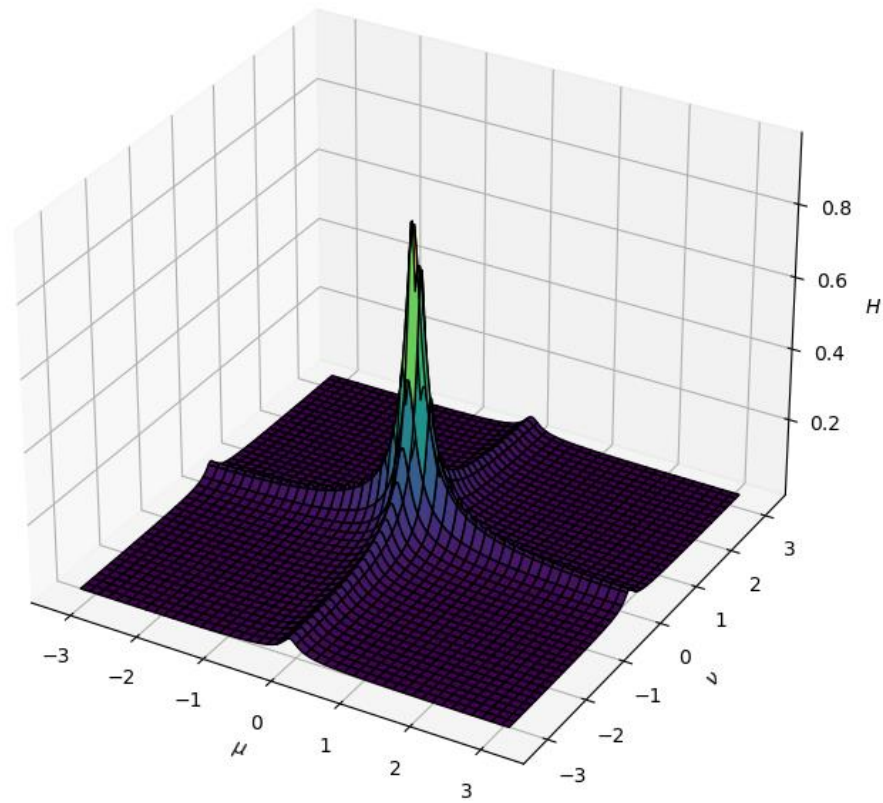
7. Listing of C Code: *See Next Page*

5. IIR Filter

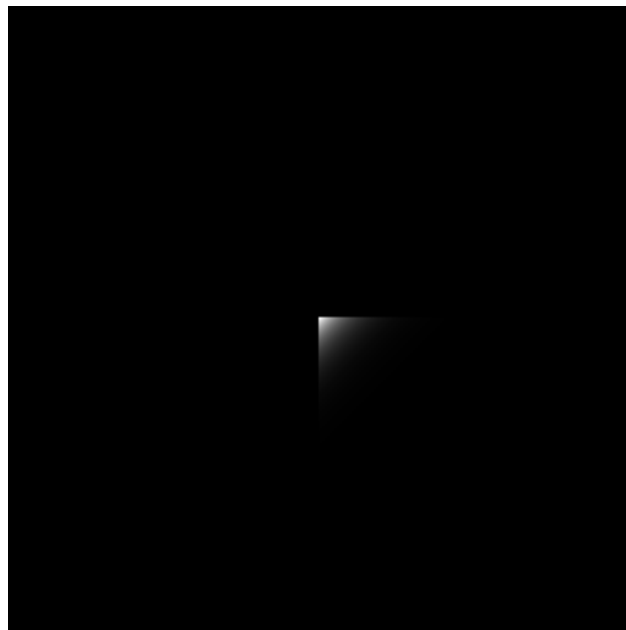
1. Derivation of $H(e^{j\mu}, e^{j\nu})$: *See Next Page*

2. Plot of $|H(e^{j\mu}, e^{j\nu})|$

Magnitude of Frequency Response $|H(e^{j\mu}, e^{j\nu})|$ vs μ and ν



3. Image of the point spread function (PSF)



4. Filtered output color image, *filtered.tif*



5. Listing of C Code: *See Next Page*